

Remarks

The Examiner rejected claims 1-12 under 35 U.S.C. §103(a) as being unpatentable over Amako in view of Shiobara because the Examiner believes that Figure 1 of Amako shows a semiconductor wafer with an active surface comprising an integrated circuit, bonding pads, and a cured silicone covering a portion of the active surface, and the silicone member comprising (A) an organopolysiloxane containing an average of at least two silicon-bonded alkenyl groups per molecule with any remaining silicon-bonded organic groups being independently selected from monovalent hydrocarbon groups free of aliphatic unsaturation, (B) an organohydrogensiloxane containing an average of at least two silicon-bonded hydrogen atoms per molecule, (C) an inorganic filler, and (D) a hydrosilylation catalyst, and heating the silicone deposit to form the cured silicone member. The Examiner concludes that Amako discloses a cured silicone member having the same composition as Applicant's disclosure, and it is obvious that the cured silicone of Amako has a coefficient of linear expansion and a modulus in a vicinity of the range recited in the pending claim.

The applicants respectfully disagree for the reasons presented in the Reply dated 2 August 2004 and because Amako does not disclose (A) an organopolysiloxane containing an average of at least two silicon-bonded alkenyl groups per molecule with any remaining silicon-bonded organic groups being independently selected from monovalent hydrocarbon groups free of aliphatic unsaturation. In contrast, Amako discloses a curable organopolysiloxane composition comprising A an organopolysiloxane containing an average of at least two alkenyl groups and at least two silicon-bonded hydrogen atoms per molecule, B a compound containing alkenyl and hydroxyphenyl groups in each molecule, and C a hydrosilylation catalyst (paragraph [0008]). Amako's component A contains BOTH silicon-bonded alkenyl groups AND silicon-bonded hydrogen atoms in the same molecule. Amako's component A differs from component (A) in claim 1 of this invention because, in addition to the silicon-bonded alkenyl groups, not all of the silicon-bonded radicals remaining in Amako's component A are organic groups because some of these silicon-bonded radicals are silicon-bonded hydrogen atoms. Therefore, Amako does not teach or suggest component (A) in claim 1 of this invention because component (A) of this invention has alkenyl groups and other organic groups bonded to silicon atoms (paragraph Page 7 of 10

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[0029]). Component (A) in claim 1 of this invention does **not** contain silicon-bonded hydrogen atoms, as required for component A of Amako.

Since the composition of Amako differs from the silicone composition of this invention, it is not inherent that a cured member prepared from the composition of Amako would have a coefficient of linear thermal expansion of from 60 to 280 $\mu\text{m}/\text{m}^\circ\text{C}$ between -40 and 150 $^\circ\text{C}$ or a modulus of from 1 to 300 MPa at 25 $^\circ\text{C}$. Amako does not teach or suggest a coefficient of linear thermal expansion of from 60 to 280 $\mu\text{m}/\text{m}^\circ\text{C}$ between -40 and 150 $^\circ\text{C}$ or a modulus of from 1 to 300 MPa at 25 $^\circ\text{C}$.

Furthermore, Amako does not teach or suggest printing any silicone compositions. Amako does not disclose any semiconductor wafers. One skilled in the art would recognize that the silicon chip in Figure 1 of Amako is not a wafer. Furthermore, Amako does not disclose a semiconductor wafer, an active surface, at least one integrated circuit, or a plurality of bond pads. Amako does not teach or suggest a cured silicone member covering at least a portion of an active surface where at least a portion of each bond pad is not covered by the silicone member.

Shiobara does not remedy the deficiencies of Amako. Shiobara does not disclose any silicone compositions. Nothing in the disclosures of Amako and Shiobara would motivate one skilled in the art to remove required component A from the composition of Amako and replace it with a different component. The disclosures of Amako in view of Shiobara do not teach or suggest all of the limitations of claim 1 of this invention.

Claim 1 is not obvious over Amako in view of Shiobara because the criteria for establishing a *prima facie* case of obviousness have not been met for the reasons discussed above. If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious MPEP §2143.03. Claims 2-12 are not obvious because each of claims 2-12 depends on claim 1. Therefore, the Applicants request that the Examiner withdraw rejection of claims 1-12 under 35 U.S.C. §103(a) and allow the claims to issue.

The Examiner rejected claim 13 under 35 U.S.C. §103(a) over Amako and Shiobara as applied to claim 1 above and further in view of Fjelstad because the Examiner believes Amako and Shiobara show a silicon wafer with a structure substantially identical to the present invention except for connection of a metal trace. The Examiner further argues that Fjelstad shows a semiconductor package comprising a semiconductor wafer having an active surface comprising at least one integrated circuit, wherein each integrated circuit has a plurality of bond pads, a cured silicone layer with a thickness range of 74-200 micrometers covering a portion of the active surface of the wafer except the bond pads, and a metal trace having a proximal end attached to each bond pad and a distal end lying on the surface of the cured silicone layer. The Examiner concludes that it would have been obvious to have a connection of the metal trace to a bond pad and a cured silicone layer because such a configuration alleviates stresses created between the substrate and the chip.

Claim 13 is not obvious for the same reasons discussed above for claims 1-12. The disclosure of a metal trace by Fjelstad does not cure the deficiencies of Amako in view of Shiobara discussed above. The present invention is not obvious over Amako in view of Shiobara and further in view of Fjelstad. A *prima facie* case of obviousness has not been established. Therefore, the Applicants request that the Examiner withdraw rejection of claim 13 under 35 U.S.C. §103(a) and allow all claims to issue.

The Examiner rejected claims 14-19 and 23-32 under 35 U.S.C. §103(a) over Fjelstad in view of Amako and Shiobara. The Examiner argues that it would have been obvious at the time the invention was made to utilize the disclosures of Amako and Shiobara for the compliant layer of Fjelstad to have the cured silicone layer with a specific composition as recited in the pending claim. The Examiner admits that Fjelstad fails to teach a specific silicone composition. The Examiner relies on Amako in view of Shiobara as discussed above for the specific silicone composition.

The combination of Fjelstad in view of Amako and Shiobara fails to meet the criteria to establish a *prima facie* case of obviousness for claims 14-19 and 23-32 for the same reasons discussed

above for claims 1-13. Amako does not disclose the silicone composition of this invention, the cured member prepared from this composition, a semiconductor wafer, an active surface, at least one integrated circuit, a plurality of bond pads, or the cured silicone member covering at least a portion of the active surface where at least a portion of each bond pad is not covered by the silicone member. Fjelstad and Shiobara fail to remedy these deficiencies. Furthermore, none of Fjelstad, Amako, and Shiobara disclose printing any silicone composition. A *prima facie* case of obviousness has not been established under MPEP §2143 because not all of the claim limitations are taught or suggested by the references. The Applicants request that the Examiner withdraw rejection of claims 14-19 and 23-32 under 35 U.S.C. §103(a) and allow the claims to issue.

This reply is being submitted within the period for response to the outstanding office action. Although the applicants believe in good faith that no extensions of time are needed, the applicants hereby petition for any necessary extensions of time. You are authorized to charge deposit account 04-1520 for any fees necessary to maintain the pendency of this application. You are authorized to make any additional copies of this sheet needed to accomplish the purposes provided for herein and to charge any fee for such copies to deposit account 04-1520.

Respectfully Submitted,
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